

ABSTRACT OF THE DISCLOSURE

Device for producing a plasma, in particular for treating surfaces, for chemically reacting gases, or for producing light, by way of microstructure electrode discharges, using a device for producing plasma having at least one guide structure. A microwave generator which can be used to launch microwaves into the guide structure. The guide structure has a locally narrowly limited plasma region in contact with a gas. The guide structure is preferably a metallic waveguide filled with a dielectric material, or an arrangement of strip lines which run on a dielectric plate. The device and the method are particularly suited for processing or activating surfaces or for depositing layers on a substrate.